

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012267**Date Inspected:** 19-Feb-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr.Li Yang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girder(OBG)**Summary of Items Observed:**

This CALTRANS OSM Quality Assurance Inspector (QA) Surendra Prabhu was present during the times noted above for observations relative to the fabrication of the Self Anchored Suspension (SAS) Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG TRIAL ASSEMBLY

This QA Inspector Randomly observed the following work in progress:

SEGMENT: 6BW

Flux Cored Arc Welding (FCAW) welding of weld joint OBW6F-005. Welder is identified as 070101. ZPMC Quality Control (QC) is identified as Mr. Li Yang. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-2231T-1.

During random in process visual inspection of above mentioned weld this Caltrans Quality Assurance Inspector(QA)observed a following issue:

- One (1) Longitudinal Linear crack observed on weld stop point, measuring approximately 8 mm in length.

This QA Informed to ZPMC Certified Welding Inspector (CWI) and CWI offered to perform Magnetic Particle Testing (MT) on crack observed area. ZPMC MT Technician performed MT on this area and he found a crack .

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After that this crack has been ground out and performed MT found to be acceptable.
(The attached photographs provide additional detail.)

SEGMENT: 7AW-7BW

Shielded Metal Arc Welding (SMAW) welding of weld joint SP478-001-045. Welder is identified as 069683. ZPMC Quality Control (QC) is identified as Mr. He Yanbing. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-P-2214-B-U2-FCM-1.

Shielded Metal Arc Welding (SMAW) welding of weld joint SP097-001-47. Welder is identified as 068917. ZPMC Quality Control (QC) is identified as Mr. He Yanbing. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-P-2213-B-U2.

SEGMENT: 6AW (Panel Point # 37~41)

The following Non Destructive Testing (NDT) Inspection carried out as per the ZPMC submitted Notification No. 005214

Magnetic Particle Testing (MT)

This QA performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control (QC) personnel. This QA generated MT report for this date. The member is identified as OBG Segment:6AW (Corner Assembly) Component. The weld designations reviewed are as follows:

1.CA025-073~078,085~090,101~104,039~042,049~054,061~066,105,106,113~118.

During Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 6AW, this Quality Assurance Inspector (QA) discovered the following issues:

- One (1) Transverse Linear indication measuring approximately 04 mm in length.
- The weld is identified as: CA025-088.
- The weld is a fillet weld joining X37 plate to stiffener plate.
- Segment 6AW is located near the OBG TRIAL ASSEMBLY AREA.

The Notice of Witness Inspection Number (NWIT) is 005214. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% MT inspection of these welds.

Applicable reference:

AWS D1.5 (02) Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks”.

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

This QA notified ZPMC QC identified as Mr. Li Yang and ABF inspector identified as Mr. Yang Chao of the

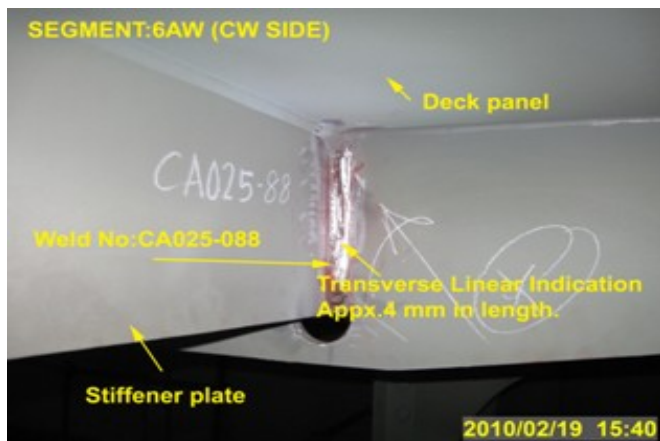
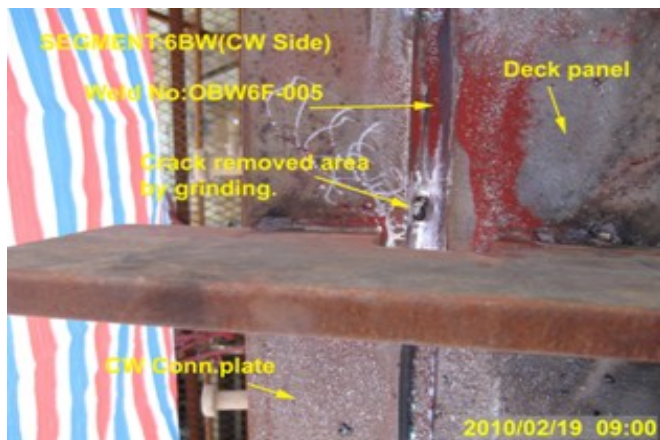
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above issue.

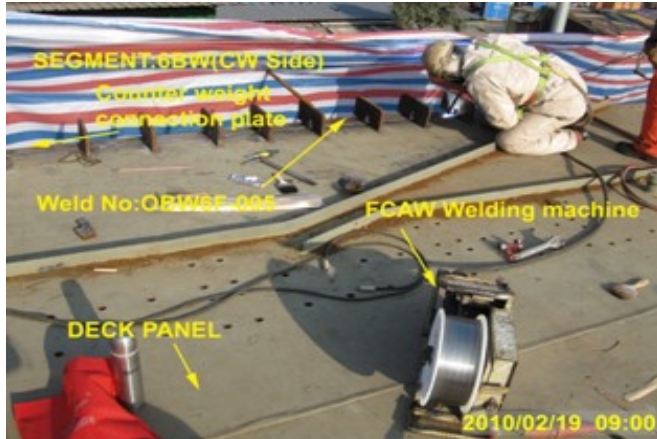
The attached photographs provide additional detail.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



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Summary of Conversations:

Only general conversation was held between QA and Quality Control (QC) concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Prabhu,Surendra	Quality Assurance Inspector
Reviewed By:	Miller,Mark	QA Reviewer
